

## NEW PUBLICATIONS.

**DARWIN ON THE ORIGIN OF SPECIES.**  
ON THE ORIGIN OF SPECIES BY MEANS OF NATURAL SELECTION. BY CHARLES DARWIN, M. D. 1859.  
pp. 493. D. Appleton & Co.

The reputation of Mr. Darwin as a scientific naturalist will challenge attention to this volume, no less than the novelty and boldness of the views which it announces. His name is familiar to the students of physical science, by his admirable narrative of the researches which he conducted while attached to the exploring expedition in the *Beagle* under Capt. Fitzroy, from 1832 to 1836, and other writings in which a fine vein of philosophy is blended with accurate and vigorous description.

On his return from that voyage, nearly twenty-five years ago, he became convinced that certain facts, which he had observed, in the distribution of the inhabitants of South America, and in the geological relations of the present to the past inhabitants of that continent, might throw not a little light on the mysterious question of the origin of species. After the lapse of five years, which appear to have been mainly devoted to other labors, though in a similar field, he took the subject in hand, and for the last sixteen years has devoted to its investigation the most diligent inquiry, spread over a vast range of facts, and no common power of minute analysis and logical deduction. Nor does he regard his work as yet in a state of completion, although sufficiently advanced to satisfy his mind of the correctness of his theory. The advice of such eminent scientific men as Sir Charles Lyell and Dr. Hooker has induced him to publish this volume, in its present form, although it claims only to be an imperfect abstract of his researches and speculations.

The cardinal doctrine of the work, as set forth by Mr. Darwin, is that the various species, into which the animal and vegetable kingdoms have been divided by naturalists, are not immutable; that the ideas of the separate and independent creation of each species is an error; and that those belonging to the same genera are lineal descendants of some other extinct species, in the same manner as the acknowledged varieties of any one species are the descendants of that species.

In order to verify his conclusions by the study of a special group, Mr. Darwin selected that of the domestic pigeon, as affording the most convenient test and illustration of his theory. His observations on this class of birds, were profound and curious. Every breed which he could purchase or obtain was brought into his observatory. He procured an assortment of skins from several quarters of the world. He studied treatises on pigeons in various languages, became a member of London pigeon clubs, and the associate of eminent pigeon fanciers. The astonishing diversity of breeds is well known. Even the names of the varieties demand a special dictionary. Look at the wonderful difference in the beaks of the English carrier and the short-faced tumbler, and see the corresponding differences entailed upon the skull. The barb is allied to the carrier, but instead of a very long beak, has one very short and very broad. The pouter has a body, wings, and legs of amazing length, and its ludicrously inflated crop is a matter of amusement. The turbit has a very short and conical beak with a line of reversed feathers down the breast; the jacobin has feathers so much reversed along the back of the neck that they form a hood; the trumpeter and laughter have a peculiar coo; the fantail has thirty or forty tail feathers, instead of twelve or fourteen, like the rest of the pigeon family; several other less distinct breeds might be specified. The differences in the skeleton are no less strongly marked than in the external organization. The period at which the perfect plumage is acquired varies. So does the down with which the nestlings are clothed when hatched. The shape and size of the eggs vary. The manner of flight is peculiar in the different breeds; and so in many of the details are the voices and disposition. Every ornithologist would regard these breeds as distinct, well-defined species, if not indeed, as belonging to different genera. Now, maintains Mr. Darwin, great are the differences between the breeds of pigeons, they have all descended, as most naturalists, in fact, admit, from a single stock, that of the rock pigeon. We need not here go into the arguments by which he supports his position. The case is mentioned as an illustration of the manner in which he traces existing diversity to original unity.

Starting, then, from a common point, how are the innumerable varieties to be accounted for? Some effect may be due to the external conditions of life; some, perhaps, to habit; but such agencies are certainly not sufficient to explain the differences of a race-horse and a cart-horse, a greyhound and a bloodhound, a carrier and a tumbler pigeon. The power of adaptation in our domesticated races to the use or fancy of man is no doubt wonderful. Some variations of this kind may have arisen suddenly, and by a single step, as in the turbit dog or the ancient sheep; but this does not tell the whole story. All the breeds were not at once produced in their present improved forms; the secret is to be found in man's power of accumulative selection. Nature gives successive variations; man integrates them in certain directions, for convenience and utility; and in this sense he may be said to make for himself useful breeds. The same principles are followed by horticulturists; but the variations are here often more abrupt. No one supposes that our choicest productions have been established by a single variation from the original stock. The steadily increasing size of the common gooseberry, for instance, has been the result of successive experiments. The continued selection of slight variations, either in the leaves, the flowers, or the fruit, will produce races different from each other chiefly in these characters. But the effect of what may be called unconscious selection is still more important. This arises from every one trying to possess the best individual animal without reference to the improvement of the stock. Thus a man who intends to keep pointers, naturally tries to procure the best dogs, and afterward breeds from the best in his pack, but without the slightest idea of permanently altering the breed. Still this process, continued during centuries, could not fail to produce remarkable and permanent effects. Thus there is reason to believe that King Charles's spaniel has been unconsciously modified to a great extent since the time of that monarch. Many excellent authorities are of opinion that the setter is directly derived from the spaniel, and has probably been slowly altered from it. It is certain that the English pointer has been greatly changed within the last century, chiefly by crosses with the fox-hound; but in so gradual and unconscious a manner that though the old English pointer certainly came from Spain, at present, if we may believe Mr. Borrow, there is no native dog which resembles him in that country. In like manner, by a careful process of selection and training, the English race-horse has come to surpass in fleetness and size the original Arab steed. The cattle of England have also increased in weight and in early maturity, compared

with the stock formerly kept. If we thus compare the accounts given in old pigeon treatises of carriers and tumblers, with those breeds as now existing in Britain, India, and Persia, we can readily trace the stages through which they have insensibly passed, and come to differ so greatly from the rock pigeon.

In plants the same gradual process of improvement through the occasional preservation of the best individuals may be recognized in the varieties of size and beauty now to be seen in the varieties of the heartsease, rose, pelargonium, dahlia, and other plants, when compared with the other varieties or with their parent stocks. No one expects to obtain a first-rate heartsease or dahlia from the seed of a wild plant, or a first-rate melting pear from the seed of the wild pear. This fruit, though cultivated in classical times, appears to have been of very inferior quality. Great surprise is often expressed at the skill of gardeners in having produced such splendid results from such poor materials. But the art has been simple, and, as far as the final result is concerned, has been followed almost unconsciously. It has consisted in always cultivating the best known variety, sowing its seeds, and when a slightly better variety has chanced to appear, selecting it, and so onward. The gardeners of the classical period, who cultivated the best pear they could procure, never thought what splendid fruit would be enjoyed at this remote day, though it is due, in some degree at least, to their having naturally chosen and preserved the best varieties they could find.

The application of these principles to organic beings in a state of nature is not difficult. No one supposes that all the individuals of the same species are cast in the very same mold. But the individual differences, such as are known frequently to appear in the offspring from the same parents, afford materials for natural selection to accumulate, in the same manner as man can artificially accumulate individual differences in his domesticated productions. It is a mistake of naturalists to suppose that important organs never vary. The varieties, in fact, are so great, that in the flora of special countries drawn up by different botanists, a surprising number of forms have been ranked by one botanist as genuine species, and by another as mere varieties. The same is true of the animals in different areas. Many of the birds and insects in North America and in Europe which differ very slightly from each other, have been ranked by one eminent naturalist as undoubted species, and by another as varieties, or, as they are often called, as geographical races. The term species, accordingly, is regarded by Mr. Darwin as an arbitrarily given for the sake of convenience to a set of individuals closely resembling each other, and not essentially differing from the term variety, which is given to less distinct and more fluctuating forms. The term variety, again, in comparison with mere individual differences, is also applied arbitrarily, and for the sake of convenience.

We are now prepared to advance another step, and to approach the question as to the origin of species in nature. How have the exquisite adaptations of one part of the organization to another part, and to the conditions of life, and of one distinct organic being to another being, been perfected? These beautiful adaptations are in every part of the organic world. Witness them in the relations of the woodpecker and mistletoe; in the humblest parasite which clings to the hairs of a quadruped or the feathers of a bird; in the plumed seed which is wafted by the gentle breeze. How is it, again, that minute varieties become ultimately converted into distinct species, which in most cases obviously differ from each other far more than do the varieties of the same species? All these results—and here is a cardinal point in Mr. Darwin's theory—follow inevitably from the struggle for life. Owing to this struggle, any variation, however slight, if it be in any degree profitable to an individual of any species, in its infinitely complex relations to other organic beings and to external nature, will tend to the preservation of that individual, and will generally be inherited by its offspring. The offspring, also, will thus have a better chance of surviving, for of the many individuals of any species which are periodically born, but a small number can survive. This principle, by which each slight variation, if useful, is preserved, is called by the author, natural selection, in order to mark its relation to man's power of selection. Man by selection can certainly produce great results, and can adapt organic beings to his own uses, through the accumulation of slight but useful variations, given to him by the hand of nature. But natural selection is a power incessantly ready for action, and is far superior to man's feeble efforts, as the works of nature are superior to those of art.

The struggle for existence, which is at the foundation of the principle of natural selection, includes not only the life of the individual, but success in leaving progeny. Two canine animals in a time of dearth may be truly said to struggle with each other which shall get food and live. But the term is used in a larger sense. A plant on the edge of a desert is said to struggle for life against the drought; but a plant which annually produces a thousand seeds, of which on an average only one comes to maturity, may more truly be said to struggle with the plants of the same and other kinds which already clothe the ground. A struggle for existence inevitably follows from the high rate at which all organic beings tend to increase. Every being, which during its natural lifetime produces several seeds or eggs, must suffer destruction during some period of its life, and during some season or occasional year, otherwise, on the principle of geometrical increase, its numbers would soon become so inordinately great that no country could support the product. Hence as more individuals are produced than can possibly survive, there must in every case be a struggle for existence, either one individual with another of the same species, or with the individuals of distinct species, or with the physical conditions of life. This is the doctrine of Malthus applied with manifold force to the whole animal and vegetable kingdoms; for in this case there can be no artificial increase of food, and no prudential restraints on marriage.

Throughout the whole realm of nature, it may be said that every single organic being is striving to the utmost to increase in numbers; that each lives by a struggle at some period of its life; and that the heavy destruction inevitably falls either on the young or old, during each generation, or at recurrent intervals. Lighten any check, mitigate the destruction ever so little, and the number of the species will almost instantaneously increase to any amount.

But how does this struggle for existence bear upon the principle of natural selection, in relation to the production of varieties? Here is the answer. As variations useful to man have undoubtedly occurred, so we must expect that other variations useful in some way to each being in the great and complex battle of life, should also occur in the course of thousands of generations. If such do oc-

cur, it can scarcely be doubted that individuals possessing any advantages, however slight, over others, would have the best chance of surviving and perpetuating their kind. On the other hand, it is evident that any variation in the least degree injurious would be rigidly destroyed. The preservation of favorable variations, and the rejection of injurious variations, is then what is meant by Mr. Darwin as natural selection. To understand the probable course of this principle, take the case of a country undergoing some physical change, for instance, of climate. The proportional numbers of its inhabitants would almost instantly undergo a change, and some species might become extinct. Any change in the numerical proportions of some of the inhabitants, independently of the change of climate itself, would most seriously affect many of the others. If the country were open on its borders, new forms would certainly immigrate, and this also would seriously disturb the relations of some of the former inhabitants. Thus every slight modification which might chance to arise in the course of ages, and which in any way favored the individuals of any of the species, by better adapting them to their altered condition, would tend to be preserved; and natural selection would thus have free scope for the work of improvement.

To illustrate the action of this principle more particularly, take the case of a wolf, which preys on various animals—securing some by craft, some by strength, and some by fleetness. Suppose that the fleetest prey, a deer, for instance, had, from any change in the country, increased in numbers, or that any other prey had decreased in numbers during that season of the year when the wolf is hardest pressed for food. Can it be doubted that the swiftest and slimmest wolves would have the best chance of surviving, and so be preserved or selected, provided that they retained sufficient strength to master their prey, when they might be compelled to depend on some other animals. Even without any change in the proportional number of animals on which the wolf preyed, a cub might be born with an innate tendency to pursue certain kinds of prey. This cannot be deemed improbable, when we observe such great differences in the natural tendencies of our domestic animals; one cat, for instance, taking to catch rats; another, mice; one bringing home winged game; another, hares or rabbits; and another hunting on marshy ground, and almost nightly catching woodcocks or snipe. Now, if any slight innate change of habit, or of structure, benefited an individual wolf, it would have the best chance of surviving, and of leaving offspring. Some of its young would probably inherit the same habits or structure, and, by the repetition of this process, a new variety might be formed, which would either supplant or coexist with the parent form of wolf.

We need not follow the author in his various applications of this principle, as we have aimed to give a general idea of his method, rather than to elucidate it in its complicated and intricate details. His reasonings are almost always ingenious and striking, and are presented with fairness and an evident love of truth. Though the conclusions at which Mr. Darwin has arrived are widely different from received opinions, he never betrays a love of paradox, or a desire to startle or surprise his reader by extraordinary statements. He possesses the modesty of true science, and though he often deals in conjectures, he never fails to bring a plausible array of facts in their support. It is not easy to see how far he pushes the application of his theory. On this point, his language is ambiguous, and as it appears to us, often inconsistent. Sometimes, he would seem to shrink from conclusions, toward which he is impelled by the force of logic. His mind, we imagine, is still in a state of suspense, deeply impressed by the result of observations which present the kingdoms of nature in a new light, but scarcely prepared to accept their legitimate consequences. Under such circumstances, he can hardly look for an intelligent assent on the part of his readers. Thus he asserts that animals have descended from at most only four or five progenitors, and plants from an equal or smaller number. At the same time, he argues, that analogy would lead still further, and suggest the belief that all animals and plants have descended from some one prototype. All living things have much in common, in their chemical composition, their germinal vesicles, their cellular structure, and their laws of growth and reproduction. This is seen even in so trifling a circumstance as that the same poison often similarly affects plants and animals. The poison secreted by the gall-fly produces monstrous growths on the wild rose or oak-tree. Hence, concludes Mr. Darwin, we may infer from analogy that probably all the organic beings which have ever lived on this earth have descended from some one primordial form, into which life was first breathed. The whole history of the world, as at present known, although of a length quite incomprehensible by us, will hereafter be recognized as a mere fragment of time, compared with the ages which have elapsed since the first creature, the progenitor of innumerable extinct and living descendants, was created. This statement, in apparent contradiction with the general bearing of the volume, is sufficiently revolutionary in its character, in spite of the ineffable quietness with which it is announced. It fully throws down the gauntlet to the whole scientific world, and will doubtless call forth an intellectual conflict of no little interest.

## THE FATE OF SIR JOHN FRANKLIN.

A NARRATIVE OF THE DISCOVERY OF THE FATE OF SIR JOHN FRANKLIN AND HIS COMPANIONS. BY CAPTAIN M'CINTOCK, R. N., LL.D. 1857. Ticknor & Fields.

Immediately after the return of Dr. Rae, in 1854, with some relics of Sir John Franklin's expedition, Lady Franklin determined to appropriate the remainder of her fortune (already much exhausted by previous searches) to an exploration of the localities in which the last traces of her husband had been discovered. The Government had declined taking any part in further enterprises for that purpose, from a conviction that, as there was no prospect of saving life, it would be worse to expose the officers and men to the perils inseparable from such an undertaking. Lady Franklin, accordingly, at once commenced preparing to send out an expedition, equipped and stored at her own expense. Several friends of the cause, including some of the most distinguished scientific men in England, volunteered their aid, and thus a considerable additional sum was raised in furtherance of the effort.

On the 18th of April, 1857, Lady Franklin offered the command of the proposed expedition to Capt. M'Cintock, by whom it was most cheerfully accepted. A better choice could hardly have been made. Capt. M'Cintock had already served in three consecutive expeditions from 1843 to 1854; was conversant with all the details of the service; was deeply interested in the cause; and had eminently distinguished himself in the voyages of Sir John Ross and Capt. Austin, and especially in his extensive journeys on the ice, when associated with Capt. Kellett.

The screw-yacht *Fox*, of 177 tons burden, which had been purchased for the enterprise, was placed at his disposal, and arrangements made to speedily refit her for the voyage. Her velvet hangings and splendid furniture were, of course, removed; the large skylights and capacious ladders were reduced to limits more suitable to a polar climate; the whole vessel was externally sheathed with stout plank, and internally fortified by strong cross-beams, longitudinal beams, iron stanchions, and diagonal fastenings; the false keel was taken off, the slender brass propeller replaced by a more massive iron one, the boiler taken out, altered, and enlarged; the sharp stem cased in iron, until it resembled a ponderous chisel set up edgewise; and the whole rig of the yacht adapted to her new and hazardous duties. The strictest economy was necessarily observed in the internal fitting up of the vessel. The officers were crammed into little cabins, hardly better than pigeon-holes, in order to make room for provisions and stores. The mess-room for five persons measured eight feet square. The only apparatus for heating the yacht was a few very small stoves.

As soon as the design of the enterprise was made known, many old shipmates of Capt. M'Cintock, in previous Arctic voyages, offered their services, and in this way an excellent crew was obtained, seventeen out of the twenty-five persons of whom it was composed having already served in the Arctic search. The second in command was Lieut. W. B. Hobson, an officer distinguished in Arctic service. An intelligent commander in the mercantile marine, Capt. Young, who had been actively employed in the Black Sea during the greater part of the Crimean campaign, joined the expedition as sailing-master. Dr. David Walker volunteered for the post of surgeon and naturalist; and just before sailing, Carl Petersen, the Esquimaux interpreter for Capt. Penny and Dr. Kane, arrived from Copenhagen to take part in the enterprise.

Provisions sufficient for twenty-eight months were taken on board, including preserved vegetables, lemon juice, and pickles, for daily consumption, and preserved meats for every third day, together with as large a supply of Allsop's stoutest ale as room could be found for. Several tuns of pemmican were added to the stores, composed of prime beef cut into thin slices and dried over a wood fire, then pounded up and mixed with about an equal weight of melted beef fat.

The little vessel sailed from Aberdeen on the first of July, and arrived in Melville Bay on the twelfth of August. Thus far the voyage had been without difficulty, but here the ice began to press in, covering the whole bay toward the north, quite in the steep face of the great glacier which takes the place of the coast line. The appearance of this stupendous glacier, extending its unbroken length for 40 or 50 miles, in the highest degree imposing. Its sea-cliffs, at the distance of 5 or 6 miles, seemed comparatively low, yet the icebergs detached from it were of the loftiest description. The far-off outline seen against the eastern sky, had a faint tint of yellow; it was almost horizontal, and of unknown distance and elevation. There was an unusual dearth of birds and seals; everything around was painfully still, except when an occasional iceberg was split off from the parent glacier; when a rumbling crash was heard, like distant thunder.

After several ineffectual attempts to escape from the ice, it became apparent, before the close of August, that the vessel would be compelled to winter in the pack. The dreary season passed away more cheerfully than one would imagine; Christmas was celebrated by a general festival; hams, plum-puddings, preserved gooseberries and apples, nuts, sweetmeats, and Burton ale graced the merry board; the officers joining with the crew in the convivial enjoyments of the day. Nor was the arrival of the New Year permitted to pass without "observance due." Exactly at midnight, the band, consisting of two flutes and an accordion, struck up a lively tune at the door of the captain, and a procession was formed of amateurs in grotesque apparel, armed with frying-pans, griddles, kettles, pots and pans, with which to add to the charms of the concert.

After almost incredible perils, the vessel was once more in the open sea, on the 26th of April, having been carried back by the floating ice nearly fourteen hundred miles, the longest drift on record. Steering for Holsteinborg, the expedition safely arrived at that place in two days, where they remained a little more than a week to refresh and refit the crew. They left Holsteinborg on the 8th of May, and proceeding steadily northward, arrived once more in Melville Bay in about thirty days. The latter part of August was spent in struggling with the ice in Bellet Strait, a narrow passage between North Somerset and Boothia Felix, and after five different attempts, they succeeded in steaming through on Sept. 6, and made fast to the ice across its western outlet, at a distance of two miles from the shore. The ice was in large, stout fields, of more than one winter's growth, apparently immovable in consequence of the numerous icelets and rocks which rose through and held it fast. Here they took up their quarters for a second Arctic winter.

During the early part of September, Captain M'Cintock was employed in preparing provisions and equipments for traveling parties on sledges, with which he determined to make a thorough search in the Spring. The plan included three separate routes and parties of four men, commanded respectively by himself, Lieut. Hobson, and Capt. Young, a dog-sledge and driver being attached to each party. Capt. M'Cintock's route was arranged for the Great Fish River and the shores of King William's Island, both in going and returning. He was to be accompanied by Petersen as a guide and interpreter. Lieut. Hobson was to explore the western coast of Boothia as far as the magnetic pole, and at a later period to proceed westward from Gateshead Island. Capt. Young was to trace the shore of Prince of Wales Land, and also examine the region between Four River Point and Cape Bird. The winter wore away, with the usual Arctic monotony; severe gales were frequent; the general health of the company was good; Christmas and New-Year's Day were celebrated with joyous festivities; the weather grew more pleasant in the month of January; daylight began to increase in strength and duration and the winter's gloom to give place to activity and cheerfulness; and on the 26th of January (1859) part of the sun's disc loomed above the horizon. It was a glorious sight, and his fresh beams inspired new hope and promise. The preparations were now busy for the traveling parties. The dogs were divided into three teams of seven each, and put through a generous course of feeding. On the morning of Feb. 17, Capt. M'Cintock set out with his party, and proceeding by the way of the Long Lake, made about 20 geographical miles for the first day's journey. On the third day the dogs began to lame in consequence of sore feet; the intense cold having hardened the surface snow beyond what they could endure; and though a part of the

provisions were thrown off, not more than 12 or 13 miles could be accomplished in a day. The party, of course, walked, so that the dogs had only the remaining provisions and clothing to drag, yet several of them repeatedly fell down in fits. The weather was almost intolerably severe. A vigorous N. W. wind prevailed, and the thermometer fell to 48° below zero. They traveled every day until dusk, and were then occupied for a couple of hours in building their snow-hut. This consisted of four walls about 54 feet high, inclining inward as much as possible; over these the tent was laid to form a roof, as there was not sufficient time to construct a dome of snow.

The equipment was a very small brown Holland tent, mackintosh floor-cloth, and felt robes, together with a bag of double blanketing, and a pair of fur boots, to sleep in, for each man. They wore moccasins over the pieces of blanket in which the feet were wrapped up, and with the exception of a change of this foot gear, carried no spare clothes. The way was led by Capt. M'Cintock in person; Petersen and Thompson followed, conducting their sledges; and in this manner they tramped on for eight or ten hours without halting, except when necessary to disentangle the dog-harness. When they halted for the night, the Captain and Thompson usually sawed out the blocks of compact snow and carried them to Petersen, who acted as the mason in building the snow-hut. Then the dogs had their supper, it being no easy task to insure the weaker ones their full share in the general scramble; after this the sledges were unpacked, the provisions and sleeping gear carried into the hut, and also the boots, fur mittens, and even the sledge dog-harness, to prevent the dogs from eating them in the night. The door was then blocked up with snow, the cooking lamp lighted, foot-gear changed, diary written up, watches wound, sleeping bags wriggled into, pipes lighted, and the merits of the various dogs discussed until supper was ready. The supper swallowed, the upper robe or coverlet was pulled over, and then to sleep. Next morning came breakfast, a struggle to get into frozen moccasins, after which the sledges were packed, and another day's march commenced.

On the first of March, they encamped in the vicinity of the magnetic pole; Capt. M'Cintock began to fear that his journey would be in vain; thus far, no traces of the Esquimaux had been met with; the provisions were nearly exhausted; six out of the fifteen dogs were disabled; and only one more march was possible. In this moment of discouragement, what was the surprise and joy of the party, on looking back, to see four men walking after them. The Captain and Petersen immediately buckled on their revolvers and advanced to meet them. The Esquimaux halted, made fast their dogs, laid down their spears, but betrayed no astonishment at the sight of the strangers.

They had been out upon a seal hunt on the ice, and were returning home; they fell in readily with the proposal to join forces; and under the pretense of barter, Capt. M'Cintock soon engaged them in conversation on the object of his visit. Inquiring with regard to a narvalbut, which he observed on one of their dresses, he was told that it came from some white people who were starved upon an island where there were salmon in a river, and that the iron of which their knives were made came from the same place. One of the men said he had been to the island to obtain wood and iron, but none of them had seen the white men. Another man had been to Repulse Bay, and counted on his fingers seven individuals of Rae's party when he remembered having seen. These Esquimaux had nothing to eat, and no other clothing than their ordinary double dresses of fur. They would not eat the biscuit or salt pork of the party, but took a small quantity of bear's blubber and some water. They slept in a sitting posture, with their heads leaning forward on their breasts.

The next morning, after traveling about ten miles further, they halted near Cape Victoria, where a tempting display was made of the knives, files, needles, scissors, beads, &c., which were offered to the Esquimaux in exchange for anything which belonged to the starved white men. Although the weather was stormy and bitterly cold, two of them stripped off their outer coats of reindeer skin, and bartered them for a knife each. On the morrow, the entire village population arrived, amounting to about forty-five souls, from aged people to infants in arms, and bartering commenced very briskly. First of all, the Captain purchased all the relics of the lost expedition, consisting of six silver spoons and forks, a silver medal, belonging to Mr. H. McDonald, assistant surgeon, part of a gold chain, several buttons, and knives made of the iron and wood of the wreck, also bows and arrows constructed of materials obtained from the same source. One of their sledges was made of two stout pieces of wood, which might have been a boat's keel. None of them had seen the whites; one man said he had seen their bones upon the island where they died, but some were buried.

On the 4th of March, the next day, several natives again visited the party. One of them told Petersen that a ship with three masts had been crushed by the ice out in the sea, to the west of King William's Island, but that all the people landed safely. He had a spear 64 feet long, with a staff which appears to have been part of the gunwale of a light boat.

These Esquimaux were all well clothed in reindeer dresses, and looked clean. They appeared to have abundance of provisions, but scarcely a scrap of wood was seen among them which had not come from the lost expedition. Most of their sledges were wretched little affairs, consisting of two frozen rolls of seal-skins, coated with ice, and attached to each other by bones, which served as cross-bars. The men were stout, hearty fellows, and the women arrant thieves, but all were good-humored and friendly. The women were decidedly plain; but not without a certain degree of gentleness and vivacity. They had fine eyes and teeth, as well as very small hands, and the young girls had a fresh rosy hue not often seen with olive complexions. The mothers carry their infants on their backs within their large fur dresses, and where the babes can only be got at by pulling them out over the shoulder.

The party returned to the ship on the 14th of March, having in the journey of 35 days traveled about 360 geographical miles, and completed the discovery of the coast line of continental America, thereby adding about 120 miles to the charts. The mean temperature throughout the journey was 30° below zero.

On the 2d of April, the traveling parties took a new start, consisting of five sledges, twelve men, and seventeen dogs, the latter of all sizes and shapes. The load for each man to drag was fixed at 200 pounds, and for each dog 100 pounds. The provisions were chiefly pemmican, biscuit, and tea, with a small addition of boiled pork, rum, and some tobacco. The men were untrained to the work, the sledges heavily laden, and the march was conse-

quently slow and fatiguing. The temperature continued low, often nearly 30° below zero, and at times with cutting north winds, bright sun, and intensely strong snow glare. The party wore colored spectacles, but almost all suffered much from inflamed eyes. The faces of the men were blistered, their lips and hands cracked, and they were greatly disfigured by the combined effects of bright sun and bitterly cold winds. No serious frost-bites occurred, however, but frostbitten faces and fingers were universal.

On the 20th of April, in lat. 70° 4' N., they met with two families of natives, comprising twelve individuals, being the same people with whom they bartered at Cape Victoria in February. Their snow-huts were upon the ice, three quarters of a mile off shore, and their occupation was seal-hunting. A snow bank or bench two feet high, and filling half the area of each hut, was covered with reindeer skins, and formed the family place of repose. An angular snow bench served as the kitchen table, and just beside it sat the lady of the establishment attending the stone lamp which stood thereon, and the stone cooking vessel suspended over it. The lamp was a shallow open vessel, the fuel seal oil, and the wick dried moss. A little seal skin bag of soft dry moss formed her tinder box, on which she struck fire with a lump of iron pyrites and a broken file. The file was marked with the Government broad arrow. There were also two large snow shovels made of mahogany board, some long spear handles, a bow of English wood, two preserved meat tins, and a deal case which might have once contained a large telescope or a barometer. It had no lid, but part of the brass hinges remained. Among the other articles in possession of the natives was a knife, with some indistinct markings on it, like those usually seen on ships' cutlasses or swords. This had been picked up on the shore near where a ship lay stranded. When found it was about the length of a man's arm, but the Esquimaux who picked it up broke it into lengths to make knives.

After long inquiry, it was ascertained that two ships had been seen by the natives of King William's Island; one of them was seen to sink in deep water; but the other was forced on shore, where they supposed she was still remaining. Captain M'Cintock was also told that the body of a man was found on board the ship; that he must have been a very large man with long teeth; that it was in the Fall of the year when the ships were destroyed; that all the white people went away to the "large river," taking a boat or boats with them; and that in the following Winter their bones were found there.

The information thus obtained respecting both the missing ships was most important, and Capt. M'Cintock determined to discover, if possible, the stranded ship. Continuing the journey, he crossed a wide bay on level ice, and remarkably smooth, hard snow. Seven or eight snow huts, recently abandoned, were found near the magnetic pole. Reaching Cape Victoria on the 28th of April, Capt. M'Cintock separated from Hobson, taking a southerly course, while the latter marched direct for Cape Felix, King William's Island. On the 7th of May, the Captain arrived at a snow-ville, with ten or twelve huts, and thirty or forty natives of King William's Island. From them, he purchased six pieces of silver plate, bearing the crests or initials of Franklin, Crozier, Fairholme and McDonald; in addition to bows and arrows of English woods, and uniform and other buttons. Having obtained all the relics they possessed, he bartered for some seal's flesh, blubber, frozen venison, dried and frozen salmon, and sold them some of his supplies. He was told that it was five days' journey to the wreck; that many of the white men dropped by the way as they went to the Great River; that some were buried and some were not.

Having proceeded as far as Montreal Island, on the 19th of May, the party commenced their return journey, but for the three following weeks the route led over new ground. On the 25th of May, as they were upon the shore along which the retreating crews must have marched, they came upon a human skeleton, partly exposed, with here and there a few fragments of clothing appearing through the snow. The skeleton was perfectly bleached, and lying upon its face, the limbs and smaller bones either discovered or gnawed away by small animals. The spot, of course, was carefully examined, the snow removed, and every scrap of clothing gathered up. A pocket-book was found, but it was frozen hard. The victim was evidently a young man, slightly built, and perhaps above the common height. The dress appeared to be that of a steward, or officer's servant, the loose bow knot in which his neck-handkerchief was tied not being used by seamen or officers. In other respects the dress confirmed the supposition as to his rank—the blue jacket with slashed sleeves and braided edging, and the pilot cloth great coat with plain covered buttons. There was a clothes-brush near and a horn pocket-book. The young man seemed to have selected the bare ridge top, as affording the easiest walking, and to have fallen upon his face when so exhausted that he could proceed no further.

The time had now come for a revelation of the most intense interest. About 12 miles from Cape Herschel, Capt. M'Cintock found a small cairn built by Hobson's party, and containing a note directed to himself. Lieut. Hobson had reached this point, about a week previously, without having seen anything of the wreck or of the natives, but he had found an invaluable record of the Franklin Expedition at Point Victory, on the N. W. coast of King William's Island. The record was on one of the printed forms used in discovery ships for the purpose of being inclosed in bottles, and being thrown overboard at sea, in order to ascertain the set of the currents. The writing on it stated that the *Erebus* and *Terror* wintered at Beechy Island in 1845-6, in lat. 74° 43' N., after having ascended Wellington Channel to lat. 77° N., and returned by the west side of Cornwallis Island, Sir John Franklin commanding the expedition. The document, bearing the date of May 28, 1847, was signed by Lieut. Gore and Des Voeux, the mate. But the mournful sequel is to be added. Around the margin of the paper, dated April 25, 1848, the words were written by another hand that the *Terror* and *Erebus* were deserted on the 23d of April, having been beset since September 12, 1846; that Sir John Franklin died on the 11th June, 1847; and that the total loss by deaths in the expedition to that date had been 9 officers and 15 men. Such, in a few words, was the sad tale of all that we yet know of the fate of Sir John Franklin. The Spring of 1847 found the expedition within 90 miles of the known sea off the coast of America; confident, no doubt, after having already in two seasons sailed over 500 miles of previously unexplored waters, of being able in the coming navigable season to pass over so short an intervening space. But this was not to be. Within a month after the record was placed on Point Victory, the gallant and beloved founder of the expedition, Sir John Franklin, was dead; and